TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-03-30-06** **Date: 03-04-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Modified Estimate for Installation and Construction of RO Plants in ward no.08, Kodigehalli Sub Division.
Agency	:	Sri.R.Vasanth, #20, A.T.Layout, Nagashettyhalli, R.M.V 2nd Stage, Bangalore.
Customer Reference	:	EE/BTP/BBMP/WO/169/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	30-03-17
Sample ID No	:	2017-03-30-06-02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	30-03-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	245	245	4.9	95.1	90-100
3	10 mm	2564	2809	56.2	43.8	25-55
4	4.75 mm	1850	4659	93.2	6.8	0-10
5	Pan	341	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-03-30-06** **Date: 03-04-17**

Sample ID No : 2017-03-30-06-02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.7	
3	Specific Gravity	2.61	–
4	Bulk Density(Loose) (Kg/l)	1.49	–
5	Bulk Density(Compacted) (Kg/l)	1.53	–
6	Water Absorption(%)	0.24	–
7	Aggregate crushing Value(%)	22.9	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	21.7	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

Note:

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R KARTHIK RECHAN
Authorized Signature
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TEST REPORT OF FINE AGGREGATE

Lab ID	:	**CP-2017-03-30-06** **Date: 03-04-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Modified Estimate for Installation and Construction of RO Plants in ward no.08, Kodigehalli Sub Division.
Agency	:	Sri.R.Vasanth, #20, A.T.Layout, Nagashettyhalli, R.M.V 2nd Stage, Bangalore.
Customer's Reference	:	EE/BTP/BBMP/WO/169/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	30-03-17
Sample ID No	:	2017-03-30-06-03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	30-03-17
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	88	88	8.8	91.2	90-100	90-100	90-100	95-100
3	2.36 mm	144	232	23.2	76.8	60-95	75-100	85-100	95-100
4	1.18 mm	189	421	42.1	57.9	30-70	55-90	75-100	90-100
5	600 micron	179	600	60.0	40.0	15-34	35-59	60-79	80-100
6	300 micron	166	766	76.6	23.4	5-20	8-30	12-40	15-50
7	150 micron	146	912	91.2	8.8	0-10	0-10	0-10	0-15
8	Pan	88	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-03-30-06** **Date: 03-04-17**

Sample ID No : 2017-03-30-06-03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.9	–
2	Specific Gravity	2.59	–
3	Material finer than 75 micron(%)	5.2	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

Note:
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Authorized Signatory
Quality Manager

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TEST RESULTS OF STEEL

Lab ID	:	**CP-2017-03-30-06** **Date: 01-04-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Modified Estimate for Installation and Construction of RO Plants in ward no.08, Kodigehalli Sub Division.
Agency	:	Sri.R.Vasanth, #20, A.T.Layout, Nagashettyhalli, R.M.V 2nd Stage, Bangalore.
Customer's Reference	:	EE/BTP/BBMP/WO/169/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	30-03-17
Sample ID No	:	2017-03-30-06/01
Sample Type	:	Sunvik
Reference to BIS codes	:	IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012.
Date of test:	:	31-03-17

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	Sunvik	Fe500	8	0.391	529	655	21.0%	Satisfactory	Satisfactory
2	Sunvik	Fe500	10	0.612	542	669	20.0%	Satisfactory	Satisfactory

Note:

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-04-08-06** **Date: 13/04/2017**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Modified Estimate for Installation and Construction of RO Plants in ward no.08, Kodigehalli Sub Division.

Agency : Sri.R.Vasanth, #20, A.T.Layout, Nagashettyhalli, R.M.V 2nd Stage, Bangalore.

Customer's Reference : EE/BTP/BBMP/WO/169/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 08-04-17

Sample ID No : 2017-04-08-06/01

Customer ID : M20 Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 13/04/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	M20 Concrete	M20	06/04/2017	13/04/2017	150.22 X 150.30 X 150.35	22578	8.390	420.0	18.6	18.5
2	M20 Concrete	M20	06/04/2017	13/04/2017	150.43 X 150.37 X 150.30	22620	8.453	427.5	18.9	
3	M20 Concrete	M20	06/04/2017	13/04/2017	150.32 X 150.30 X 150.31	22593	8.412	408.9	18.1	

Note:

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-03-30-06** **Date: 03-04-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Modified Estimate for Installation and Construction of RO Plants in ward no.08, Kodigehalli Sub Division.
Agency	:	Sri.R.Vasanth, #20, A.T.Layout, Nagashettyhalli, R.M.V 2nd Stage, Bangalore.
Customer's Reference	:	EE/BTP/BBMP/WO/169/2016-17
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	30-03-17
Sample ID No	:	2017-03-30-06-02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	30-03-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	230	230	1.5	98.5	90-100
3	20 mm	5423	5653	37.7	62.3	30-70
4	10 mm	4660	10313	68.8	31.2	10-35
5	4.75 mm	4221	14534	96.9	3.1	0-5
6	Pan	466	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-03-30-06** **Date: 03-04-17**

Sample ID No : 2017-03-30-06-02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.6	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.9	
3	Specific Gravity	2.62	_
4	Bulk Density(Loose) (Kg/l)	1.54	_
5	Bulk Density(Compacted) (Kg/l)	1.59	_
6	Water Absorption(%)	0.22	_

Note:

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Quality Manager

****End of Report****

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : **CP-2017-03-30-06** **Date: 01-04-17**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Modified Estimate for Installation and Construction of RO Plants in ward no.08, Kodigehalli Sub Division.

Agency : Sri.R.Vasanth, #20, A.T.Layout, Nagashettyhalli, R.M.V 2nd Stage, Bangalore.

Customer's Reference : EE/BTP/BBMP/WO/169/2016-17

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 30-03-17

Sample ID No : 2017-03-30-06/01

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6

Date of test : 31-03-17

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.35	–
2	Finess by Air permeablity method (m^2/kg, Min)	245.5	225m^2/kg, Min
3	Density (gm/cc)	3.21	–
4	Standard Consistency (%)	27.5%	Not specified
5	Initial Setting time	145 minutes	Not less than 30 minutes
6	Final Setting time	250 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	2mm	Not more than 10 mm

Note:

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4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: T- 4358

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-03-30-06** **Date: 07-04-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Modified Estimate for Installation and Construction of RO Plants in ward no.08, Kodigehalli Sub Division.
Agency	:	Sri.R.Vasanth, #20, A.T.Layout, Nagashettyhalli, R.M.V 2nd Stage, Bangalore.
Customer's Reference	:	EE/BTP/BBMP/WO/169/2016-17
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	30-03-17
Sample ID No	:	2017-03-30-06/01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	31-03-17

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.0N/mm^2	Not less than 37 N/mm^2

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